

5.2 Partial Fractions

Name _____ Date _____ Period _____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Write the terms for the partial fraction decomposition of the rational function. Do not solve for the constants.

1) $\frac{x^2 - 7}{x(x^2 - 4)}$

1) _____

2) $\frac{x^5 - 2x^4 + x - 1}{x^3 (x - 1)^2 (x^2 + 9)}$

2) _____

Find the partial fraction decomposition.

3) $\frac{x + 22}{(x + 4)(x - 2)} = \frac{A}{x + 4} + \frac{B}{x - 2}$

3) _____

4) $\frac{x - 3}{x(x + 3)} = \frac{A}{x} + \frac{B}{x + 3}$

4) _____

5) $\frac{4x + 4}{x^2(x + 2)} = \frac{A}{x} + \frac{B}{x^2} + \frac{C}{x + 2}$

5) _____

$$6) \frac{x^2 - 2x + 1}{(x - 2)^3} = \frac{A}{x - 2} + \frac{B}{(x - 2)^2} + \frac{C}{(x - 2)^3}$$

6) _____

$$7) \frac{2}{(x - 5)(x - 3)}$$

7) _____

$$8) \frac{4}{x^2 - 1}$$

8) _____

$$9) \frac{1}{x^2 + 2x}$$

9) _____

$$10) \frac{-x + 10}{x^2 + x - 12}$$

10) _____

$$11) \frac{x + 17}{2x^2 + 5x - 3}$$

11) _____